



DES
**DEPARTMENT OF ENVIRONMENT
AND SUSTAINABILITY**



air quality



desert conservation
PROGRAM



sustainability

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MINOR SOURCE PERMIT

SOURCE ID: 18111

Lithion Battery, Inc.
1350 Wigwam Parkway
Henderson, Nevada 89074

ISSUED ON:

EXPIRES ON:

Current action: **New**

Issued to:

Lithion Battery, Inc.
7375 Commercial Way
Suite 150
Henderson, Nevada 89011

Responsible Official:

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Technology Director
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Issued by the Clark County Department of Environment and Sustainability, Division of Air Quality, in accordance with Section 12.1 of the Clark County Air Quality Regulations.

Theodore A. Lendis, Permitting Manager

EXECUTIVE SUMMARY

Lithion Battery, Inc. is a manufacturer of lithium-ion batteries that is located in Hydrographic Area 212 (the Las Vegas Valley). This source category falls under SIC code 3691, “Storage Batteries” and NAICS code 335911, “Storage Battery Manufacturing.” This is a minor source of regulated air pollutants consisting of an electrode coating process. No NSPS or NESHAP regulations are applicable to this source.

SOURCE-WIDE PTE SUMMARY: The facility is a minor source of VOCs.

Table 1. Potential to Emit (tons per year)

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	H ₂ S	Pb
Total	0	0	0	0	0	0.86	0	0

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COMMON ACRONYMS AND ABBREVIATIONS
(These terms may be seen in the permit)

AQR	Clark County Air Quality Regulation
°C	temperature in units of degrees Celsius
CFR	Code of Federal Regulations
CO	carbon monoxide
DAQ	Division of Air Quality
DES	Clark County Department of Environment and Sustainability
EPA	U.S. Environmental Protection Agency
EU	emission unit
H ₂ S	hydrogen sulfide
m ³	cubic meter
mg	milligram
mPa	millipascal
NAICS	North American Industry Classification System
NMP	N-Methyl-2-Pyrrolidone
NO _x	nitrogen oxide(s)
O&M	operations and maintenance
Pb	lead
PID	photoionization detector
PM _{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter
PTE	potential to emit
SIC	Standard Industrial Classification
SO ₂	sulfur dioxide
VOC	volatile organic compound

1.0 EQUIPMENT

1.1 EMISSION UNITS

The stationary source consists of the emission units (EUs) listed in Table 1-1. [AQR 12.1.4.1(b)]

Table 1-1. Summary of Emission Units

EU	Rating	Description	Manufacturer	Model No.	Serial No.
A01		Coating Machine	Naknor/Zhanyu	3506D	TBD

1.2 INSIGNIFICANT ACTIVITIES

The following units/activities are insignificant emission sources under AQR 12.1.2(c).

Table 1-2. Insignificant Activities and/or Units

Description
Mixing Cathode and Anode Pastes
Electrode Cutting and Slitting Process
Winding Cathode and Anode Process
Dosing and Crimping Process

When added to the source PTE, emissions from these units will not subject the source to major-source requirements for any pollutant. Pursuant to AQR 12.1.2(a), all exempt and insignificant units and activities shall remain subject to any other applicable requirements.

1.3 NONROAD ENGINES

Pursuant to Title 40, Part 1068.30 of the Code of Federal Regulations (40 CFR Part 1068.30), nonroad engines that are portable or transportable (i.e., not used on self-propelled equipment) shall not remain at a location for more than 12 consecutive months; otherwise, the engine(s) will constitute a stationary reciprocating internal combustion engine (RICE) and be subject to the applicable requirements of 40 CFR Part 63, Subpart ZZZZ; 40 CFR Part 60, Subpart IIII; and/or 40 CFR Part 60, Subpart JJJJ. Stationary RICE shall be permitted as emission units upon commencing operation at this stationary source. Records of location changes for portable or transportable nonroad engines shall be maintained, and shall be made available to the Control Officer upon request. These records are not required for engines owned and operated by a contractor for maintenance and construction activities as long as records are maintained demonstrating that such work took place at the stationary source for periods of less than 12 consecutive months.

Nonroad engines used on self-propelled equipment do not have this 12-month limitation or the associated recordkeeping requirements.

2.0 CONTROLS

2.1 CONTROL DEVICES

Table 2-1. Summary of Add-On Control Devices

EU	Device Type	Manufacturer	Model No.	Serial No.	Pollutant
On A01	Gas Liquefaction Recovery (condenser)	Shaoguanshiqujiang Tian Rui De Chemical Technology Co. Ltd.	TRD-R3Y/12000	TBD	VOC

2.2 CONTROL REQUIREMENTS

Coating [AQR 12.1.4.1(c)&(f)]

1. The permittee shall operate the gas liquefaction recovery unit at all times the coating process is in operation (EU: A01)
2. The permittee shall operate and maintain the gas liquefaction recovery unit in accordance with the manufacturer's O&M manual for emissions-related components.
3. The permittee shall ensure the liquefaction recovery unit has a VOC control efficiency of at least 99%, as provided for and guaranteed by the manufacturer.

Liquefaction Recovery Unit [AQR 12.1.4.1(c)&(f)]

4. The permittee shall operate the liquefaction recovery unit with recirculation water that has been cooled to a temperature range of 7 – 12 °C.
5. The permittee shall maintain the chilled recirculation water for the liquefaction recovery unit at a minimum flow rate of 22 cubic meters per hour.
6. The permittee shall maintain the chilled recirculation water for the liquefaction recovery unit at a pressure range of 0.2 – 0.4 mPa.

Other [AQR 12.1.4.1(c)&(f)]

7. The permittee shall not cause, suffer, or allow any source to discharge air contaminants (or other materials) in quantities that will cause a nuisance, including excessive odors. [AQR 40 & AQR 43]

3.0 LIMITATIONS

3.1 OPERATIONAL LIMITS

1. The permittee shall limit the consumption of NMP to 20,072 gallons per year (EU: A01). [AQR 12.1.4.1(c)&(f)]

3.2 EMISSION LIMITS

1. The permittee shall not allow the actual emissions from the stationary source to exceed the PTE listed in Table 3-1 per year, except for emission units intended only for use in emergencies and as provided in AQR 12.1.6(b). [AQR 12.1.4.1(c)]

Table 3-1. Potential to Emit (tons per year)

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	H ₂ S	Pb
Total	0	0	0	0	0	0.86	0	0

2. The permittee shall not allow the actual emissions from the following individual emission units to exceed the PTE listed in Table 3-2 per year, except for emission units intended only for use in emergencies and as provided in AQR 12.1.6(b). [AQR 12.1.4.1(c)]

Table 3-2. Source-Wide Emission Unit PTE Summary (tons per year)

EU	Condition ¹	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	H ₂ S	Pb
A01	20,072 gal/yr	0	0	0	0	0	0.86	0	0

¹The quantities in this column are not intended as enforceable permit limits unless stated otherwise in this permit.

3. The permittee shall not allow the actual emissions from each emission unit to exceed the concentrations listed in Table 3-3. [AQR 12.1.4.1(c)]

Table 3-3. Allowable Emission Concentrations

EU	VOC
A01	25 mg/m ³

4. The permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for more than six consecutive minutes. [AQR 26.1]

4.0 COMPLIANCE DEMONSTRATION REQUIREMENTS

4.1 MONITORING

Coating Machine [AQR 12.1.4.1(d)]

1. The permittee shall monitor the monthly consumption of NMP, in gallons (EU: A01).

Liquefaction Recovery Unit [AQR 12.1.4.1(d)]

2. The permittee shall monitor the temperature of the recirculation water on a daily basis.
3. The permittee shall monitor the flow rate of the recirculation water on a daily basis.
4. The permittee shall monitor the pressure range of the recirculation water on a daily basis.

4.2 TESTING

1. Performance testing is subject to 40 CFR Part 60.8 (as amended), Subpart A, and *Clark County Department of Air Quality Source Testing Guidelines (9/19/2019)*. Performance testing shall be the instrument for determining initial compliance with the emission limitations set forth in tables 3-3 of this permit. [AQR 12.1.4.1(d)]
2. The permittee shall conduct performance testing on the coating machine according to the following conditions (EU: A01): [AQR 12.1.4.1(d) & *Clark County Department of Air Quality Source Testing Guidelines (9/19/2019)*]
 - a. The permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the source will be operated, but no later than 180 days after initial startup.
3. The permittee shall use the performance testing methodologies for individual emission units listed in Table 4-1. The Control Officer will consider approving a request for alternative performance test methods if proposed in writing in the performance test protocols. [AQR 12.1.4.1(d)]

Table 4-1. Performance Testing Protocol Requirements

EU	Test Point	Pollutant	Method
A01	Exhaust Outlet Stack	VOC	As proposed in the protocol and agreed upon by DAQ Compliance and Enforcement
	Stack Gas Parameters	—	EPA Methods 1, 2, 3A, and 4

4. The permittee shall submit to the Control Officer for approval a performance testing protocol that contains test, reporting, and notification schedules, test protocols, and anticipated test dates at least 45 days, but not more than 90 days, before the anticipated test date. [AQR 12.1.4.1(d)]

5. The permittee shall submit a report describing the results of the performance test to the Control Officer within 60 days of the end of the performance test. *[AQR 12.1.4.1(d)]*
6. The permittee of any stationary source that fails to demonstrate compliance with emissions standards or limitations during any performance test shall submit a compliance plan to the Control Officer within 90 days of the end of the performance test. *[AQR 12.1.4.1(aa)]*
7. The Control Officer may require additional performance testing when operating conditions appear inadequate to demonstrate compliance with the limitations in this permit. *[AQR 4.2]*

4.3 RECORDKEEPING REQUIREMENTS

1. The permittee shall create and maintain the following records, all of which must be producible on-site to the Control Officer's authorized representative upon request and without prior notice during the permittee's hours of operation: *[AQR 12.1.4.1(d)(2) & AQR 12.1.4.1(s)]*

Inspections/Maintenance/General

- a. Manufacturer's O&M manual for the coating machine (EU: A01), and the liquefaction recovery unit;

Coating

- b. Monthly volume of NMP consumed, in gallons;
- c. SDS for all VOC-containing compounds consumed;

Liquefaction Recovery Unit

- d. Daily temperature, flow rate, and pressure of recirculation water;

Nonroad Engines

- e. Records of location changes for nonroad engines, if applicable;

Emissions

- f. Performance test results, if applicable (reported as required by Section 4.2 of this permit);
- g. Deviations from permit requirements that result in excess emissions (reported as required in Section 4.4 of this permit);
- h. Deviations from permit requirements that do not result in excess emissions (reported annually); and

- i. Calculation of annual emissions for each emission unit and for the entire source (reported annually).
2. The permittee shall include in each record above, where applicable, the date and time the monitoring or measurement was taken, the person performing the monitoring or measurement, and the emission unit or location where the monitoring or measurement was performed. Each record must also contain the action taken to correct any deficiencies, when applicable. *[AQR 12.1.4.1(d)(2)(A)]*
3. The permittee shall maintain all records for a period of at least five years from their creation. *[AQR 12.1.4.1(d)(2)(B)]*

4.4 REPORTING AND NOTIFICATION

1. The permittee is responsible for all applicable notification and reporting requirements contained in 40 CFR Parts 60 and 63.
2. If the construction or modification of a source differs from what was authorized in a new permit or significant permit revision, the source shall provide a written notice to the Control Officer that includes a list of the differences, and complete descriptions of each one, at least 30 days before commencing operations. *[AQR 12.1.4.1(n)]*
3. The permittee shall submit to the Control Officer, within 15 days of commencing operations, any outstanding identification and/or description that was not previously available for new emission unit(s), as noted in this permit with "TBD." *[AQR 12.1.3.6(b)(2)(B)]*
4. The permittee shall submit an annual report to the Control Officer in accordance with the following requirements. *[AQR 12.1.4.1(d)(3)]*
 - a. Each annual report shall be: *[AQR 12.9]*
 - i. Based on the preceding calendar year;
 - ii. Submitted on or before March 31 of each year, even if there was no activity (if March 31 falls on a Saturday or Sunday, or on a state or federal holiday, the submittal shall be due on the next regularly scheduled business day); and
 - iii. Addressed to the attention of the Control Officer.
 - b. Each annual report shall contain, at a minimum:
 - i. As the first page of text, a signed certification containing the sentence: "I certify that, based on information and belief formed after reasonable inquiry, the statements contained in this document are true, accurate, and complete." This statement shall be signed and dated by a responsible official of the company (a sample form is available from DAQ); *[AQR 12.9(g)]*
 - ii. The calculated actual annual emissions from each emission unit, even if there was no activity, and the total calculated actual annual emissions for the source based

on the emissions calculation methodology used to establish the PTE in the permit or an equivalent method approved by the Control Officer prior to submittal. [AQR 12.9(c)(2)]

5. The permittee shall report to the Control Officer any upset, breakdown, malfunction, emergency, or deviation that causes emissions of regulated air pollutants in excess of any limits set by regulation or by this permit. The report shall be in two parts, as specified below: [AQR 25.6.1 & AQR 12.1.4.1(d)(3)(B)]
 - a. Within 24 hours of the time the permittee learns of the event, the permittee shall notify DAQ by phone at (702) 455-5942, by fax at (702) 383-9994, or by email at AQCompliance@ClarkCountyNV.gov.
 - b. Within 72 hours of the required notification, the permittee shall submit a detailed written report to DAQ containing the information required by AQR 25.6.3.
6. The permittee shall report deviations from permit requirements that do not result in excess emissions, including those attributable to upset conditions as defined in the permit, with the annual report. Such reports shall include the probable cause of such deviations, as well as any corrective actions or preventive measures taken. [AQR 12.1.4.1(d)(3)(B)]
7. Any report and/or compliance certification submitted pursuant to this section or the AQR shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this section, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [AQR 12.1.4.1(d)(3)(C)]

5.0 ADMINISTRATIVE REQUIREMENTS

5.1 GENERAL

1. The permittee must comply with all permit conditions. Noncompliance with any condition is a violation of the AQRs and grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a renewal application. [AQR 12.1.4.1(r)]
2. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall be unaffected and remain valid. [AQR 12.1.4.1(i)]
3. The terms and conditions of this permit apply to any part or activity of the stationary source that emits, or has the potential to emit, any regulated air pollutant for which operating authority has been granted, and includes all third parties (such as lessees or contractors) conducting such activities. [AQR 12.1.4.1(c) & AQR 12.1.4.1(aa)]
4. Any application, report, or compliance certification submitted to the Control Officer pursuant to this permit or the AQRs shall contain a certification of truth, accuracy, and completeness with a responsible official's original signature. [AQR 12.1.3.6(a), AQR 12.1.4.1(d)(3), & 40 CFR Part 3]
5. As a condition of the issuance of the permit, the owner or operator agrees to allow inspection of the premises to which the permit relates, including the location where records must be kept under the conditions of the permit, by any authorized representative of the Control Officer at any time during the permittee's hours of operation without prior notice to perform the following: [AQR 12.1.4.1(s)]
 - a. Access and copy any records that must be kept under the conditions of the permit;
 - b. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - c. Sample or monitor substances or parameters for the purpose of assuring compliance with the permit or applicable requirements; and
 - d. Document alleged violations using such devices as cameras or video equipment.
6. The permittee shall pay fees to the Control Officer consistent with the approved fee schedule in AQR 18. [AQR 12.1.4.1(k)]
7. This permit does not convey property rights of any sort, or any exclusive privilege. [AQR 12.1.4.1(t)]
8. Anyone issued a permit under AQR 12 shall post the permit in compliance with AQR 12.13. [AQR 12.1.4.1(v)]

9. This permit shall not waive, or make less stringent, any limitations or requirements contained in or issued under the Nevada State Implementation Plan, or that are otherwise federally enforceable. *[AQR 12.1.4.1(w)]*
10. Except as provided in AQR 12.1.6, no person shall commence construction of, operate, or make a modification to a minor source except in compliance with a minor source permit that authorizes such construction, operation, or modification. *[AQR 12.1.3.1(a)]*
11. The permittee's commencement of operations constitutes an acknowledgment that the permittee assumes the responsibility of ensuring the source's emission units and emission control equipment have been constructed and will be operated in compliance with all applicable requirements. *[AQR 12.1.4.2]*
12. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit. *[AQR 12.1.4.1(o)]*

5.2 RENEWALS AND REVISIONS

1. This permit may be modified, revoked, reopened and reissued, or terminated for cause by the Control Officer. The filing of a request by the permittee for a permit modification, for termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[AQR 12.1.4.1(p)]*
2. The permittee shall furnish to the Control Officer, in writing and within a reasonable time, any information that the Control Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Control Officer copies of records that the permit requires keeping. The permittee may furnish records deemed confidential to the Control Officer with a claim of confidentiality, pursuant to AQR 12.6. *[AQR 12.1.4.1(u)]*
3. Any revision of an emission limitation, monitoring, testing, reporting, or recordkeeping requirement shall be made consistent with the permit revision requirements in AQR 12.1.6. *[AQR 12.1.4.1(e)]*
4. A permit may be reopened and revised under any of the following circumstances: *[AQR 12.1.4.1(q)]*
 - a. Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Control Officer, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - b. The Control Officer determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

- c. The Control Officer determines that the permit must be revised or revoked to assure compliance with applicable requirements.
 - d. Proceedings to reopen and issue a permit shall follow the same procedures that apply to initial permit issuance, and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.
5. For the renewal of an existing minor source permit, a timely application shall be submitted to the Control Officer. An application for renewal shall be deemed to be timely if it is submitted at least 120 days, but no more than 270 days, before the date of permit expiration. *[AQR 12.1.3.1(b)]*
 6. To be deemed complete, an application must contain all information required under AQR 12.1.3.6, and must be accompanied by payment of the applicable fee(s) established in AQR 18. If, while processing an application deemed complete, the Control Officer determines that additional information is needed to evaluate or take final action on the application, he or she may request such information in writing and set a reasonable deadline for its submission. Failure to provide the additional information required by the Control Officer by the deadline could result in denial of the application. *[AQR 12.1.3.3]*
 7. If an existing minor source submits a timely and complete application for renewal of a minor source permit, the source's continued operation after permit expiration and before issuance of the renewed permit is not a violation of the AQRs. This application shield shall cease to apply if, after a completeness determination, the applicant fails to submit any additional information identified as necessary to process the application by a deadline the Control Officer has specified in writing, or if the renewed permit is denied for any other reason. *[AQR 12.1.3.4]*
 8. If the submittal of an application for renewal of an existing minor source permit is not timely, there is no permit application shield as provided in AQR 12.1.3.4, and the source loses its authority to operate upon permit expiration until the renewal permit is issued. *[AQR 12.1.3.1(c)]*
 9. If an application for renewal of an existing minor source permit is submitted within six months after permit expiration, the source loses its authority to operate upon permit expiration until the renewal permit is issued. *[AQR 12.1.3.1(d)]*
 10. If an application for the renewal of an existing minor source permit is submitted six months or more after permit expiration, the source loses its authority to operate upon permit expiration; the source will be treated as a new minor source, and the application will be subject to all the requirements of AQR 12.1.3.6. *[AQR 12.1.3.1(e)]*